

REMARKS

Claims 1-24 are pending in this application. Claims 8, 11-13, 18 and 21 are amended hereby; and claims 9 and 10 are canceled hereby. Claims 1-7 are withdrawn as being drawn to a nonelected group. Claims 8-24 are rejected.

Responsive to the objection of claims 10-12, 18 and 20 at page 2 of the Office Action, Applicant has canceled claim 10 and amended claims 11, 12 and 18 keeping in mind the comments of the Examiner. Regarding claim 20, Applicant respectfully submits that the element "said hinge section" has proper antecedent basis in line 7 of claim 18 from which claim 20 depends, therefore claim 20 is in allowable form. Applicant submits that claims 11, 12, 18 and 20 are now in allowable form.

Responsive to the rejection of claims 8-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,398,383 (Binghold), Applicant has amended claims 8, 11 and 12, and canceled claims 9 and 10, and submits that claims 8, 11 and 12 are now in condition for allowance.

Bingold '383 discloses restraint 100 (Figs. 10 and 11) which includes ratchet portion 102 extending from a respective socket boss 104 and terminating into tip pull 106 (column 9, lines 29-31). As with strap 14 of restraint 10 (Figs. 1-1A), strap 14' of restraint 100 includes ratchet portion 102 having ratchet teeth 126 extending rib 132 (column 9, lines 63-65). Ribs 130 and 132 continue to linearly extend along tip pull portion 106 at which point each rib 130 and 132 include closely spaced saw teeth 134 (column 9, lines 65-67). Opposite, inner surface 136 of tip pull 106 also includes closely spaced saw teeth 138 extending transversely edge to edge in the same manner as teeth 32 on tip pull 15 of the embodiment of Figs. 1-9 (column 9, line 67 through column 10, line 3).

In contrast, claim 8, as amended, recites in part:

. . . an elongate strap having a longitudinal direction, a first side, a second side and an end, said end being attached to said head, said first side having at least two longitudinally extending ribs, said second side having at least three longitudinally extending ribs, each said rib being substantially parallel with each other, each said rib extending a substantial portion of a longitudinal length of a corresponding side, said longitudinally extending ribs on said first side being spaced apart in a direction transverse to said longitudinal direction, said longitudinally extending ribs on said second side being spaced apart in a direction transverse to said longitudinal direction.

(Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by Bingold '383 or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Bingold '383 discloses ties with multiple rib structures on a single side of the strap portion requiring insertion of the strap into the corresponding socket from one side only. However, none of the cited references disclose or suggest an elongate strap having a first side having at least two longitudinally extending ribs spaced apart in a direction transverse to the longitudinal direction and a second side having at least three longitudinally extending ribs spaced apart in a direction transverse to the longitudinal direction.

An advantage of the present invention over the cited prior art is that the elongate strap may be inserted from either side of the head and still interlock with the teeth in the locking slot.

For all of the foregoing reasons, Applicant submits that claim 8, and claims 11 and 12 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 8-15 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,031,943 (Scott et al.), Applicant has amended claims 8, and 11-13, and canceled claims 9 and 10, and submits that claims 8 and 11-15 are now in condition for allowance.

Scott et al. '943 disclose tie-strap 10 (Figs. 1-4) including narrow elongated body portion 12 having integrally connected at its head-end 12' head-end member 14 which defines a through aperture 30 therein corresponding generally to the cross-sectional dimensions of body portion 12 (column 3, lines 17-24). Tail end 12" of strap portion 12 may have integrally formed therein a plurality of spaced, parallel, relatively narrow grooves 13 to act as a finger grip portion (column 3, lines 24-27). Serrations 22 are provided along the sides of strap body 12 and are adapted to coact with projecting teeth members 34 and 36 disposed within aperture 30 of head-end 14 (column 3, lines 28-31). At least one sharp projection 28 is connected to the underside of body portion 12, projection 28 acting to restrain strap 10 from relative movement therewith when pulled taut about the neck of bag B (column 5, lines 15-20).

In contrast, claim 8, as amended, recites in part:

. . . an elongate strap having a longitudinal direction, a first side, a second side and an end, said end being attached to said head, said first side having at least two longitudinally extending ribs, said second side having at least three longitudinally extending ribs, each said rib being substantially parallel with each other, each said rib extending a substantial portion of a longitudinal length of a corresponding side, said longitudinally extending ribs on said first side being spaced apart in a direction transverse to said longitudinal direction, said longitudinally extending ribs on said second side being spaced apart in a direction transverse to said longitudinal direction.

(Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by Scott et al. '943 or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Scott et al. '943 disclose a tie used in a unidirectional manner, as indicated by Figs 3 and 7 of Scott et al. '943, the design of the head-end member and the restraining projections on a single side of the strap, whereas the present invention is a bi-directional device. Further, the multiple rib structure of Scott et al. '943 are coextending in a longitudinal direction whereas the present

invention have ribs spaced apart in a direction transverse to the longitudinal direction. Scott et al. '943, or any of the cited references, fail to disclose or suggest an elongate strap including a first side having at least two longitudinally extending ribs spaced apart in a direction transverse to the longitudinal direction and a second side having at least three longitudinally extending ribs spaced apart in a direction transverse to the longitudinal direction.

An advantage of the present invention over the cited prior art is that the elongate strap may be inserted from either side of the head and still maintain all of the functionality of the tie.

For all of the foregoing reasons, Applicant submits that claim 8, and claims 11 and 12 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

In further contrast, claim 13, as amended, recites in part: "... a head attached to said end, said head including a locking slot for receiving said strap therein, said locking slot including opposing walls, each said wall having three rib openings, each said wall including at least one locking tooth." (Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by Scott et al. '943 or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Scott et al. '943 disclose ties with locking slots including opposing walls with two rib openings whereas the present invention has opposing walls with three rib openings allowing for bi-directional utilization of the present invention with the addition strength of the third rib and corresponding opening. Scott et al. '943, or any of the other cited references, fail to disclose or suggest a locking slot including opposing walls with each wall having three rib openings.

An advantage of the present invention is that the longitudinally extending ribs on the elongate strap, and corresponding three rib openings in the locking slot, inhibit the convoluted tubing from moving in a longitudinal direction. Another advantage of the present invention over

the cited prior art is that the elongate strap can be inserted from either side of the head and still interlock with the teeth in the locking slot.

For all of the foregoing reasons, Applicant submits that claim 13, and claims 14-17 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 18-24 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,717,906 (Wells), Applicant has amended claims 18 and 21, and submits that claims 18-24 are now in condition for allowance.

Wells '906 discloses an all plastic cable tie 11 (Figs. 1-4) formed integrally of strap 13 and head or frame 15 (column 1, lines 47-48). Free end or tip portion 17 of the strap is formed with a number of small teeth 19 on one side thereof to provide the user with a non-slip surface to grasp (column 1, lines 52-55). Teeth 12 are bonded on their ends by flange 25 which project at least as high as the teeth (column 1, lines 58-60). Head or frame 15 is a hollow generally rectangular member having end walls 35 and 37 and side walls 39 and 41 (column 1, lines 65-67). The walls of the frame form passage 43 through which strap 13 may be passed (column 1, line 67, through column 2, line 1). Notches 57 and 59 are formed in sets of projections 61 and 63 extending from the inside surfaces of side walls 39 and 41 (column 1, lines 21-23). Another modified form of cable tie is shown in Figs. 6 and 7 wherein boss 71 having passage 73 of circular cross-section, is formed integrally with the head and connects to one end wall thereof through means of a thin, flexible web 75 (column 2, lines 29-32).

In contrast, claim 18, as amended, recites in part:

said head including a locking slot for receiving said strap therein and interconnecting with said serrations, said head including opposing sides and a perimeter wall extending on each said opposing side, said perimeter wall including at least one notch on each said opposing side in said perimeter wall, said notches creating a hinge section allowing hinged movement of said head in a direction transverse to said longitudinal extension.

(Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by Wells '906 or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Wells '906 discloses a cable tie wherein a boss having a passage of circular cross-section is formed integrally with the head and connects to one end wall thereof through a thin, flexible web connected at the bottom of the boss. Although the web of Wells '906 is flexible, it will tend towards plastic deformation whereas the perimeter wall and notches thereon of the present invention will provide superior head strength and flexibility. Further, the opposing side symmetry of the head of the present invention further enhances the bi-directional nature of a tie with a bi-directional hinge. Wells '906, or any of the other cited references, fail to disclose or suggest a head including opposing sides and a perimeter wall extending on each opposing side, the perimeter wall including at least one notch on each opposing side in the perimeter wall, with the notches creating a hinge section.

An advantage of the present invention is that the perimeter wall with notches creates additional strength and flexibility for the hinge.

For all of the foregoing reasons, Applicant submits that claim 18, and claims 19 and 20 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

In further contrast, claim 21, as amended, recites in part: "a head attached to said end, said head including a locking slot for receiving said strap therein and interconnecting with said serrations, said head including a shoulder with an inside perimeter defining a mounting through-hole therein, said inside perimeter being polygonal.". Applicant submits that such an invention is neither taught, disclosed nor suggested by Wells '906 or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Wells '906 discloses a cable tie wherein a boss has a passage of circular cross-section compared to the present invention with a mounting through-hole which includes an inside perimeter being polygonal. The corners and facets of the polygonal shape of the present invention provide superior fastener gripping, compared to a passage of circular cross-section of the prior art, thereby providing superior holding of, for example, a convoluted tubing. Wells '906, or any of the other cited references, fail to disclose or suggest a head including a shoulder with an inside perimeter defining a mounting through-hole therein, the inside perimeter being polygonal.

An advantage of the present invention is that the polygonal shape of the inside perimeter of the shoulder will tend to grip the fastener better thereby reducing the tendency of the tie to twist when holding a convoluted tubing.

For all of the foregoing reasons, Applicant submits that claim 21, and claims 22-24 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 8-10, 12-14, 16 and 17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,758,390 (Villeneuve), Applicant has amended claims 8 and 11-13, and canceled claims 9 and 10, and submits that claims 8-10, 12-14, 16 and 17 are now in condition for allowance.

Villeneuve '390 discloses cable tie 0 formed from a synthetic resin and having an elongate flexible strap portion 1 and head portion 2 all molded as a single piece (column 2, lines 19-21). Elongate strap 1 includes a longitudinal channel 15 on one side and transversal notches 14 on the other side (column 2, lines 21-24). Block head 2 is made in a substantially cubic shape and includes a permanently locking barb 5 located in its lower part, movable barb 4 located in its upper part, first opening 8 on one side of block head 2, second opening 9 on the opposite side of block head 2, lever arm 7 attached to movable barb 4 and fulcrum 6 (column 2, lines 24-30).

Both movable and permanently locking barbs 4, 5 include teeth 13, 12 respectively (column 2, lines 30-31).

In contrast, claim 8, as amended, recites in part:

... an elongate strap having a longitudinal direction, a first side, a second side and an end, said end being attached to said head, said first side having at least two longitudinally extending ribs, said second side having at least three longitudinally extending ribs, each said rib being substantially parallel with each other, each said rib extending a substantial portion of a longitudinal length of a corresponding side,

...

Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by Villeneuve '390 or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Villeneuve '390 discloses (Fig. 4) what could be interpreted as two ribs on each side of the strap compared to three ribs on one side of the present invention which gives the present invention two strap locking surfaces versus the single strap locking surface of Villeneuve '390. Villeneuve '390, or any of the cited references, fail to disclose or suggest an elongate strap including a first side having at least two longitudinally extending ribs spaced apart in a direction transverse to the longitudinal direction and a second side having at least three longitudinally extending ribs spaced apart in a direction transverse to the longitudinal direction.

An advantage of the present invention over the cited prior art is the superior holding strength of the strap in the head.

For all of the foregoing reasons, Applicant submits that claim 8, and claims 11 and 12 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

In further contrast, claim 13, as amended, recites in part: "... a head attached to said end, said head including a locking slot for receiving said strap therein, said locking slot including opposing walls, each said wall having three rib openings, each said wall including at least one

locking tooth.”. (Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by Villeneuve ‘390 or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Villeneuve ‘390 disclose tie with locking slots including opposing walls with two rib openings whereas the present invention has opposing walls with three rib openings allowing for bi-directional utilization of the present invention with the addition strength of the third rib and corresponding opening. Villeneuve ‘390, or any of the other cited references, fail to disclose or suggest a locking slot including opposing walls with each wall having three rib openings.

An advantage of the present invention is that the longitudinally extending ribs on the elongate strap, and corresponding three rib openings in the locking slot, inhibit the convoluted tubing from moving in a longitudinal direction. An advantage of the present invention over the cited prior art is the superior holding strength of the strap in the head.

For all of the foregoing reasons, Applicant submits that claim 13, and claims 14, 16 and 17 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.


For the foregoing reasons, Applicant submits that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Moreover, Applicant submits that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally

petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095,
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Should any question concerning any of the foregoing arise, the Examiner is invited to
telephone the undersigned at (260) 897-3400.

Respectfully submitted,



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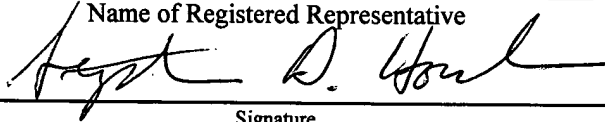
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